

LISTING OF CLAIMS:

The following listing of claims replaces all previous listings or versions thereof:

1. (Previously presented) Recombinant seven-transmembrane receptor, further defined as a recombinant G protein-coupled receptor, whereby the amino terminus of said recombinant receptor is located on an extracellular side and the carboxy-terminus is located on an intracellular side of a membrane, comprising at least two detectable labels, whereby
 - a first of said at least two detectable labels is, or is located on, the carboxy-terminus and whereby a second of said at least two labels is, or is located on, the first or third intracellular loop; or whereby a first of said at least two labels is, or is located on, the first intracellular loop and a second of at said at least two labels is, or is located on, the third intracellular loop, and further wherein the first and second labels are detectable by resonance energy transfer.
2. (Previously presented) Recombinant membrane receptor of claim 1, whereby said first label is, or is located on, the third intracellular loop of said membrane receptor and wherein said second label is, or is located on, the carboxy terminus.
3. (Cancelled)
4. (Previously presented) Recombinant membrane receptor of claim 1, whereby said G-protein-coupled receptor (GPCR) is selected from the group consisting of a rhodopsin/β2

adrenergic receptor-like GPCR, a glucagon/VIP/calcitonin receptor-like GPCR and a metabotropic neurotransmitter/ calcium receptor.

5. (Original) Recombinant membrane receptor of claim 4, whereby said rhodopsin/β2-adrenergic receptor-like GPCR is the α2A adrenergic receptor or the adenosine receptor A2A or wherein said glucagon/VIP/calcitonin receptor-like GPCR is the parathyroid hormone (PTH) receptor.
6. (Canceled)
7. (Previously presented) Recombinant membrane receptor of claim 1, whereby said detectable labels are fluorescent labels or bioluminescent labels.
8. (Previously presented) Recombinant membrane receptor of claim 7, whereby said fluorescence labels are selected from the group consisting of green fluorescent protein, yellow fluorescent protein, cyan fluorescent protein, blue fluorescent protein, citrine, sapphire and dsRed, whereby said bioluminescent labels is luciferase, or whereby said fluorescence label is produced by binding a fluorescein arsenical helix binder compound to specific epitopes of said 1st and 3rd loop or said C-terminus of the recombinant seven-transmembrane receptor.

9. (Currently amended) Recombinant membrane receptor of claim 1, whereby said G-protein-coupled receptor comprising at least two labels is selected from the group consisting of:

(a) a polypeptide as shown in SEQ ID NOS: 12,14, 16, 40 or 42; and

(b) a polypeptide encoded by a nucleic acid sequence as depicted in any one of SEQ ID NOS:11, 13, 15, 39 or 41;

(c) ~~a recombinant membrane receptor of claim 3 encoded by a nucleotide sequence which hybridizes to a nucleotide sequence as defined (b) under stringent hybridization conditions; and~~

(d) ~~a recombinant membrane receptor of claim 3 encoded by a nucleic acid sequence being degenerate as a result of the genetic code to a nucleic acid sequence as defined in (b) or (c).~~

10. (Currently amended) Recombinant membrane receptor of claim 1, wherein the third intracellular loop being or comprising said first label is selected from the group consisting of

(a) a polypeptide depicted in SEQ ID NOS: 18, 22 or 26; and

(b) a polypeptide encoded by a nucleic acid sequence as depicted in SEQ ID NOS : 17, 21 or 25;

(c) ~~a third intracellular loop encoded by a nucleotide sequence which hybridizes to a nucleotide sequence as defined (b) under stringent conditions; and~~

(d) ~~a third intracellular loop encoded by a nucleic acid sequence being degenerate as a result of the genetic code to a nucleic acid sequence as defined in (b) or (c).~~

11. - 23. (Cancelled)

24. (Currently amended) A diagnostic composition comprising the recombinant membrane protein of claim 1 or the nucleic acid molecule of claim 11, the vector of claim 12, the host cell of claim 14 or organs or cells of the non-human transgenic animal as defined in claim 15.

25. (Currently amended) A kit comprising the recombinant membrane protein of claim 1 or the nucleic acid molecule of claim 11, the vector of claim 12, the host cell of claim 14 or organs or cells of the non-human transgenic animal as defined in claim 15.

26. - 30. (Cancelled)

31. (Previously presented) Recombinant membrane receptor of claim 1, whereby the labels are detectable by fluorescence or bioluminescence.